

SEQUENCE LISTING

<110> Alexander H. Borchers
Kenneth W. Dobie

<120> ANTISENSE MODULATION OF HEMATOPOIETIC CELL PROTEIN TYROSINE KINASE
EXPRESSION

<130> RTS-0345

<160> 87

```
<210> 1
<211> 20
<212> DNA
<213> Artificial Sequence
```

<220>

<223> Antisense Oligonucleotide

```
<400> 1
tccgtcatcg  ctccctcaggg
```

20

```
<210> 2
<211> 20
<212> DNA
<213> Artificial Sequence
```

<220>

<223> Antisense Oligonucleotide

<400> 2

atgcattctg cccccaagga

20

<210> 3

<211> 2015

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (169) ... (1686)

<400> 3

cggaggcacg gaagatgagg aagatgatca ggaggatgat gaaggtgaag agggagatga 60

agacgatgac gacgatggct ctgaggggac ctcaggggct gccgagctgg gggggcgctc 120

aagctgcbag gatccgggct gcccgcgaga cgaggagcgg gcgccagg atg ggg tcg 177

Met Gly Ser

1

atg aag tcc aag ttc ctc cag gtc gga ggc aat aca ttc tca aaa act 225

Met Lys Ser Lys Phe Leu Gln Val Gly Gly Asn Thr Phe Ser Lys Thr

5

10

15

gaa acc agc gcc agc cca cac tgt cct gtg tac gtg ccg gat ccc aca 273

Glu Thr Ser Ala Ser Pro His Cys Pro Val Tyr Val Pro Asp Pro Thr

20

25

30

35

tcc acc atc aag ccg ggg cct aat agc cac aac agc aac aca cca gga 321

Ser Thr Ile Lys Pro Gly Pro Asn Ser His Asn Ser Asn Thr Pro Gly

40

45

50

atc agg gag gca ggc tct gag gac atc atc gtg gtt gcc ctg tat gat 369

Ile Arg Glu Ala Gly Ser Glu Asp Ile Ile Val Val Ala Leu Tyr Asp

55

60

65

1000010-120101

tac gag gcc att cac cac gaa gac ctc agc ttc cag aag ggg gac cag 417
 Tyr Glu Ala Ile His His Glu Asp Leu Ser Phe Gln Lys Gly Asp Gln
 70 75 80

atg gtg gtc cta gag gaa tcc ggg gag tgg tgg aag gct cga tcc ctg 465
Met Val Val Leu Glu Glu Ser Gly Glu Trp Trp Lys Ala Arg Ser Leu
85 90 95

gcc acc cgg aag gag ggc tac atc cca agc aac tat gtc gcc cgc gtt 513
Ala Thr Arg Lys Glu Gly Tyr Ile Pro Ser Asn Tyr Val Ala Arg Val
100 105 110 115

gac tct ctg gag aca gag gag tgg ttt ttc aag ggc atc agc cgg aag 561
Asp Ser Leu Glu Thr Glu Glu Trp Phe Phe Lys Gly Ile Ser Arg Lys
120 125 130

gac gca gag cgc caa ctg ctg gct ccc ggc aac atg ctg ggc tcc ttc 609
Asp Ala Glu Arg Gln Leu Leu Ala Pro Gly Asn Met Leu Gly Ser Phe
135 140 145

atg atc cgg gat agc gag acc act aaa gga agc tac tct ttg tcc gtg 657
Met Ile Arg Asp Ser Glu Thr Thr Lys Gly Ser Tyr Ser Leu Ser Val
150 155 160

cga gac tac gac cct cgg cag gga gat acc gtg aaa cat tac aag atc 705
Arg Asp Tyr Asp Pro Arg Gln Gly Asp Thr Val Lys His Tyr Lys Ile
165 170 175

cgg acc ctg gac aac ggg ggc ttc tac ata tcc ccc cga agc acc ttc 753
Arg Thr Leu Asp Asn Gly Gly Phe Tyr Ile Ser Pro Arg Ser Thr Phe
180 185 190 195

agc act ctg cag gag ctg gtg gac cac tac aag aag ggg aac gac ggg 801
Ser Thr Leu Gln Glu Leu Val Asp His Tyr Lys Lys Gly Asn Asp Gly
200 205 210

ctc tgc cag aaa ctg tcg gtg ccc tgc atg tct tcc aag ccc cag aag 849

Leu Cys Gln Lys Leu Ser Val Pro Cys Met Ser Ser Lys Pro Gln Lys
 215 220 225

cct tgg gag aaa gat gcc tgg gag atc cct cgg gaa tcc ctc aag ctg 897
 Pro Trp Glu Lys Asp Ala Trp Glu Ile Pro Arg Glu Ser Leu Lys Leu
 230 235 240

gag aag aaa ctt gga gct ggg cag ttt ggg gaa gtc tgg atg gcc acc 945
 Glu Lys Lys Leu Gly Ala Gly Gln Phe Gly Glu Val Trp Met Ala Thr
 245 250 255

tac aac aag cac acc aag gtg gca gtg aag acg atg aag cca ggg agc 993
 Tyr Asn Lys His Thr Lys Val Ala Val Lys Thr Met Lys Pro Gly Ser
 260 265 270 275

atg tcg gtg gag gcc ttc ctg gca gag gcc aac gtg atg aaa act ctg 1041
 Met Ser Val Glu Ala Phe Leu Ala Glu Ala Asn Val Met Lys Thr Leu
 280 285 290

cag cat gac aag ctg gtc aaa ctt cat gcg gtg gtc acc aag gag ccc 1089
 Gln His Asp Lys Leu Val Lys Leu His Ala Val Val Thr Lys Glu Pro
 295 300 305

atc tac atc atc acg gag ttc atg gcc aaa gga agc ttg ctg gac ttt 1137
 Ile Tyr Ile Ile Thr Glu Phe Met Ala Lys Gly Ser Leu Leu Asp Phe
 310 315 320

ctg aaa agt gat gag ggc agc aag cag cca ttg cca aaa ctc att gac 1185
 Leu Lys Ser Asp Glu Gly Ser Lys Gln Pro Leu Pro Lys Leu Ile Asp
 325 330 335

ttc tca gcc cag att gca gaa ggc atg gcc ttc atc gag cag agg aac 1233
 Phe Ser Ala Gln Ile Ala Glu Gly Met Ala Phe Ile Glu Gln Arg Asn
 340 345 350 355

tac atc cac cga gac ctc cga gct gcc aac atc ttg gtc tct gca tcc 1281
 Tyr Ile His Arg Asp Leu Arg Ala Ala Asn Ile Leu Val Ser Ala Ser
 360 365 370

10007010-120401
 10007010-120401

ctcccagaca cccaccctcg cttcagccac agtttcctca tctgtccagt gggtagggtg 1836

gactggaaaa tctctttttg actcttgcaa tccacaatct gacattctca ggaagccccc 1896

aagttgatat ttctatttcc tggaatgggt ggattttagt tacagctgtg atttggaagg 1956

gaaactttca aaatagtgaa atgaatatatt aaataaaaaga tataaatgca agtcttacg 2015

<210> 4

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 4

tttgtccgtg cgagactacg 20

<210> 5

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 5

ttgtccaggg tccggatct 19

<210> 6

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Probe

<400> 6

ctcggcaggg agataccgtg aaacattac

29

<210> 7

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 7

gaaggtgaag gtcggagtc

19

<210> 8

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 8

gaagatggtg atgggatttc

20

<210> 9

TOHDET-010/0001

```
<211> 20
<212> DNA
<213> Artificial Sequence
```

$\langle 220 \rangle$

<223> PCR Probe

```
<400> 9
caagcttccc gttctcagcc
```

```
<210> 10
<211> 30000
<212> DNA
<213> Homo sapiens
```

$\langle 220 \rangle$

```
<221> exon
<222> (4334) ... (4437)
<223> exon 5
```

```
<221> exon:intron junction
<222> (4437)...(4438)
<223> exon 5:intron 5
```

```
<221> intron
<222> (4438)...(8453)
<223> intron 5
```

```
<221> intron:exon junction
<222> (8453)...(8454)
<223> intron 5:exon 6
```

```
<221> exon
<222> (8454)...(8603)
<223> exon 6
```


<221> exon:intron junction

<222> (8603)...(8604)

<223> exon 6:intron 6

<221> intron:exon junction

<222> (8950)...(8951)

<223> intron 6:exon 7

<221> exon

<222> (8951)...(9103)

<223> exon 7

<221> exon:intron junction

<222> (9103)...(9104)

<223> exon 7:intron 7

<221> intron

<222> (9104)...(11187)

<223> intron 7

<221> intron:exon junction

<222> (11187)...(11188)

<223> intron 7:exon 8

<221> exon

<222> (11188)...(11367)

<223> exon 8

<221> exon:intron junction

<222> (11367)...(11368)

<223> exon 8:intron 8

<221> intron

<222> (11368)...(13127)

<223> intron 8

<221> intron:exon junction

10007030-1204

<221> exon:intron junction

<222> (23695)...(23696)

<223> exon 11:intron 11

<221> intron

<222> (23696)...(25876)

<223> intron 11

<221> intron:exon junction

<222> (25876)...(25877)

<223> intron 11:exon 12

<221> exon

<222> (25877)...(26412)

<223> exon 12

<400> 10

gatctttctcg cctcagcctc ccaaaatgct gggattatag gcctgaacca ctgcacctgg 60

cccatccctc atttgattca ttcgacaagc acatgctcat gactcttcaa gccctgtgcc 120

agcctaaggg gctgtggaaa caaataagat ataccctac cctcaaggag ctctccataa 180

cccatcggtc ttggctgtgg gttcttcttg tgtctagctt gactctaaaa atatacttca 240

gtcatccatc catccatcca tccattcatc catccatcca tccatccatc catccatcca 300

tcatccaaca gatacctgtt gattccctat tccagggtta gaagatgact tagatggggc 360

tccctgctgg agatgttctc tgtatggtgg atgaggttga tgagtaaaaa gatgactaca 420

ttgtgggggtg gcaatacatc ccattaaaaa ccagccaatc aaaagttgac aaatgacagt 480

ccccattggt ttgtctcttc tgcctcctct ttctagctag atggtattat gggtttggga 540

tgcttgccctg ttaaaaaatga aaacgcttag gcttttccca ttataaagcc acctccttct 600

1000010-120101

ggctgggcat ggtggctcac acctgtaatc ccagcacttc gggaggccaa ggcacgcaga 660
tcacctgagg tcaggagttc gagaccagcc tgaccaacaa ggtgtaacct catctctact 720
aaaaatacaa aaaaaattag ctgggtgtgg tgggtgcgtgc ctgtagtccc agctactcgg 780
gaggctgagg caggagaatc acttgactcc agggggcaga ggttgcagtg agctgaaata 840
tcatgccact gcactccagc ctgggggaca agagcgatac tctgtcaaaa aaaaacaatt 900
atgtcacccc ttcttagtga tcatggaact gggggctctt agctgtttct ctctccttct 960
tccaggcttt gccctgggtc atcccatgct ctgtttctcc actccagggt ctgaacactt 1020
acagaatccc tgggtcacct catgtagtcc ttgcagcaac catggaggag gcgtggctgg 1080
cattatttct caaaggcaac ataattgcta agtggaacac gcagggtgta gacaacatga 1140
atgggggggtt atcatttgca gacaaaggca aaataaccta gatgggggggt tctcagacat 1200
gagcagcaac agcatcacct ggattgccgg ctaacaagtg ctttctgggc tccactgtca 1260
gattccgaat gtgcatttct aacaggttct tgggtgaggc agctgctgct gctgctgctc 1320
cagggaacca gcttgggaac cactgatcta aatacgcata tctggccagg tgtggtggct 1380
cacacctgta atcccagcac tttgggaagc cgagggaggt ggaacacttg aggtcaggag 1440
ttcaagacca gcctggccta catggtgata cctgcctct actaaaaata caaaaattag 1500
ccagggtgta tggcgggctc ctgtaatccc agctactcag aggctgaggc acgagatttg 1560
cttgatctgg gaggcagagg ttgcagtgag ccgagatcac gccactgcac tccagcctgg 1620
acaacagagc gagactctat ctcaaaaaat aataataaaa ataacaaatg aatacacata 1680
tgtgtccttt cagggcactc aggggtcctt gtgtctgaat caagaaactg ctaacagagg 1740

10007010.120401

ttgcctctgg ggagcacaac tgggaccttg ggaatcaggg cgggatggaa tcttggtttc 1800

tctcattctc ccttgaaata ggcaatactt tcaaagtgtt caaaatgcaa atgtggggaa 1860

gcatgcagaa gagtgaaaag tcttcttccc accctgtccc caaccagcca ctccccctcc 1920

ccagaagcaa ccagtttctc gtgagtcctc ccagatgctt cctccttata taagaaaaga 1980

catctcttcc cgcttatctc acacaagtgg tagataccac acacactggt ccatgcctct 2040

cgttcagacc ttccatgcag caccttgctc ctgttttggt ttgttttggt ttgttttggt 2100

ttttaggtgg agtttctctc ttgttgccca ggctggagtg caatgggtgtg atctcggctc 2160

actgcaacct ccgcctcccg ggttcaagcg attctcctgc ctcagcctcc caagtagctg 2220

ggattacagg catgcgccac catacctagc taattttgta tttttaatag agacaggggt 2280

tctccatggt ggtcaggctg gtctcgaact cctgaactcg tgatcctcct gccttggcct 2340

cccaaagtgc tgggattaca ggcgtgagcc actgctcccg gacacctcct tcctttttat 2400

accacagggc gtctgtcctg tagatgtcct accgtccatt taacctctgc cctatacagt 2460

ggtcacttaa gttgtttcca gtcatgtact gaagcgaatc tcctgggtgta tatgtcattt 2520

ctcccttggt caaggtctat gggataactt cctaggacca gaattgtcag ggagacagtt 2580

ggtttttttt gtttgtttgt ttgtttgttt ttgagacaga gtctcgctct gttgcccagg 2640

ctggagtgca gtggcgtgat ctcggtcac tgcaagctcc acctcccagg ttcacaccat 2700

tctcctgcct cagcctcccg agtagctggg actacaggct cctgccacca tgctcggcta 2760

atTTTTTTTT ttttttttgt attttttagtc gagacggggg ttcaccatgt tagccaggat 2820

ggctctgaac tcctgacctc gtgatccacc cgcctcggcc tcccaaagtg ctgggattac 2880

1000010120401

aggtgtgagc caccgcgccc agccggggga gacagttctt agtcttacat agttgaatat 2940
tttaccatgg cacaagtcac tttaacaacat gaaagcaaag aaggtagatg agcaacatag 3000
catggtgatt cagagcttgg gttctggagt tagactgcct agcttcaaat cctgcctcta 3060
caacttccca gctgtgtgac tctaggcaag tcaacttgccc tctctgttcc tcaatttcat 3120
catccataaa atggggccag gagcagtggc tcatacctgt aatcccatca ctttgggagg 3180
ccaaggtgga tggatcacct gagttcagga gttcgagacc agcctggcca acatggtaaa 3240
accccgctctc tactaaaaat acaaaaatta gctaggtgta gtggtgggtg cctgtaatcc 3300
cagctgcttg ggaggctgag gcaaaaataat tgcttgaacc cgagaagcag aggtttcagt 3360
gagcccagat cacaccactg cactccagcc tgggtgacag agcaagactc agtctcaaaa 3420
aaaaaaaaa aaaaaaaaaa ggggggaatg ataaaggtga caactccata gagctgttgg 3480
gtggatagca agatagatgt taacttcctc cccagttgat aacagaggaa ccaaaggccc 3540
aaagaggaag gcaacttgct caaagtcaca ctgcaggttt gtggcagagc caaggcaggc 3600
tgaggtcagg tctggggctt ttttccaact gtcctcacc ccagtgaagg tgggaatgga 3660
ttccactgct gctgcttgaa cttttccacc caaatatctc aatattcagg aagaatgaag 3720
aaaatgtccc aggatataat cctaagtata aaattctttc caatctcaca ttgtagctta 3780
gaagttcagg ccaactttat attcaactcc atatatgcgg aggaggattg gttgtaaagc 3840
taacaaaact caggcccttc acaggettcc aagggtcccaa gaaggatctt ccccggtggtc 3900
ttgtatgctt gtgaaacctg caaaagtaag actttgacca cagctgggta agactgctgt 3960
ctgtttccac tctgtcttcc tgtccatctc cctgtccctc acagcgagca gcactgaaat 4020

10007010-120101

gacctatcag ctttttgcac ttgttaatgc tgtattatct ttcttaaagg aagttcccc 4080
actccaaatt gcataggctt cagtctcagc aaacaggatt cacttcgggt aaaatgtcta 4140
ttttgatatc aaaagaatgg ctcttttacc ttctctcccc caaaaaatct ttgagtaaaa 4200
ctgatgctgc aggaagccag accctctgta tcttgacatt cccctgggac ctgcatggcc 4260
acaggcatcc tgtgtaggcc ggacaggact gcatgacccc aggttcacat ttgtcccctc 4320
ccttttccat caggtgggtt ttcaagggca tcagccggaa ggacgcagag cgccaactgc 4380
tggtcccgga caacatgctg ggctccttca tgatccggga tagcgagacc actaaagggtg 4440
acaccagccc tccccacctt gtctctcctg ccgaggtgcc ccagctgggg ctggccacca 4500
ccctttcctt ggaaaatgcc ctgggaaagg ctgaaaaacc caaccagggtg ctgtggctgc 4560
caggtttctc ctgctcttgg ccacctgagc tggggagggt tgaggctctg tgcctggctc 4620
tgcccttctt atccaccata gctgccagct taggtcagtg gaactagtgc caggtggctt 4680
aggccctgaa aacaaagaaa catccagctg aagcttgatc ttcactgact tgttttttca 4740
tttgttttgg ttcttgtttt gttttgttct gttttttgag atggagtctc actctgtcgc 4800
caggctggag tgcagtgggt cgatctcggc tcttgcaac ctccacctcc caggtttgag 4860
cgattctcct gcctcagcct tccaagtagc tgggattaca agtgctcgcc accatgcccc 4920
gctaattttt gtatttttag tagagacagg gtttcacat gttggccagt atggtctcga 4980
tctcctgacc ttgcgatcca cccctcttgc cctcccaaag tgctgagatt acaggcgtga 5040
gccactgcgc ctggcctgtt ttgttttgtt tgagacaggg tctcactctg ttgccaggc 5100
tggtatgcag tggcacaatc tcagctcact gcaacttctg cctcctgggc tcaaagtatt 5160

10007010-120401

ctcccatctc agtctcccgga gtagctggga ctacaggtac gtgccaccat gctgactaat 5220
cttttctttc tgtttttctt tctttctttt tagtagagat ggggttttgc catgttgect 5280
aggctggcct cgaacttctg gactcaagca atctgcctac ctcagccttc caaagtgtca 5340
ggactacaaa gtgtcaggat tgtttttgtt ttgggtttttt taaatacccg taacagacca 5400
agtaggggag gccaacacag gaggatcact taagcccaaa agttcgagac cagcctgggc 5460
aacatagtga gaccccatct gtatgaaaaa ttttaaaaat tagccaagca tgggtggtgca 5520
catctgtact cctgatact cagaagggtg aggcagatg atctcttgag tccaggagtt 5580
caaggctgca gcgagccata atggagccac tagactccag cctgggcaac agagcaagac 5640
cccatctcta aaaaaataaa acaaaatacc cattacaata gatcttatcc acaagcctca 5700
ttctctcttt cctccctcca taaggaaatg aggtaggatg aggtcgccag aagagactca 5760
agccagcctt ctctgggact ctgctgaaaa tgctccttgg aagcttttgg aagttttaat 5820
gtcaggtgac cagcttcctg gaatttctgt gctgcaaggg tggattcatg ctgattgggt 5880
gcatggatgg caagaacagg cctggaaaac atcgcgtagc tcaaactggc atcgattgag 5940
gctcattgcc tcaaaggaat gaacatcagt aggattctta tgatttcaga tttcatgtgc 6000
taagtgcacc ttactaata catttaggtt cacaactgct tgactcaaata aagccaagta 6060
tattgtataa tatgtgacct cacggtaccc tgaagcaaac agatttgggg acattgatta 6120
aaggcatgtt cctcatgtgg cttctactt gaccctcagc tatctgaatt ggccaagctt 6180
tcatgtggct aggataatgc taccacaat cagtgtggca gctcagtga tgccctgggct 6240
ttgtctcttc ccaccaacg agcccatc aagccccag ggggaagaaa aggagataaa 6300

10007010-120401

| | | | | | | |
|------------|-------------|-------------|------------|------------|------------|------|
| aagacaaagc | tgtgcacagc | ccagcgcttc | tcctctctag | ctgtgcccag | gacagctttt | 6360 |
| ggcttgggct | ggtccatcct | gcagacaagg | gcagagaaat | caaagaaacc | atcacagatc | 6420 |
| tgtggggcag | gaaaatgagc | ctgggtccagc | tttcacagct | ctctgagatg | gggcatgttg | 6480 |
| ggaattttag | ccgattttaat | aaaagttgca | gcatgagacc | tgtgaatccc | accctgctgc | 6540 |
| ttcctggatc | ctgccacacc | ccatccagca | gcaaccaagc | cagtctcgcc | cctgactggg | 6600 |
| acagagtggc | tgagaggggc | tctggagcca | gctgcctgga | tttgaatccc | agctgtgcca | 6660 |
| cttaccagct | gtgtgactgt | aggtgagtta | tttcacctct | ctgggcttca | gtttcctcat | 6720 |
| ccgtaaata | ggatgatgat | attataaaac | ccttacccca | tgaggttatt | cattcattaa | 6780 |
| ataaataata | ttataattta | tatagttata | attcattata | atgaatatta | ttcttattca | 6840 |
| ttcattgttc | atctacgcag | agtgctttga | acttgcttgg | catgtacggg | aagctattat | 6900 |
| tcattcaaca | gtataaaactg | gccagggtgag | gtgactcaag | cctgtaatcc | cagcagtttg | 6960 |
| ggaggctgag | gcatgtggat | cacctgagct | caggagttgg | agaccagcct | ggccagcatg | 7020 |
| gtgaaactcc | atctctacta | aaaatacaaa | aattagccgg | gcgtagtggc | gggcgtctgt | 7080 |
| aatcccagct | actcaggagg | ctgaggtagg | agaattgctt | gaacctggga | ggcagagatt | 7140 |
| gcagtgagcc | aagattgcgc | cactgcactc | cagcctggat | gacacagcga | gactctgaca | 7200 |
| cacacacaca | aaaaataaag | tttaaacttc | ccaatccta | tgacattgta | ctattatcat | 7260 |
| ggtaaagaac | actgagacag | agggactaat | aacttgccca | agggcacaca | gctcacaaat | 7320 |
| agcaaaacgg | tggtcatgag | ctgaaagact | tatgtgtttc | tgctctatgt | gataatatag | 7380 |
| ggtggtgcaa | aagtaatttc | agttttttcc | actacttttg | aaggcaaaaa | ctgcaattac | 7440 |

[illegible]

ggagctggtg gaccactaca agagtgagtc ccaccccagg ggtgacatcc ccaccacgat 8640

gggcccacag actcctagtc acggatgcac tgtggcccct gagacctgct gtgtccttct 8700

tggccatccc ctagacagat agttgctttg gatgcttctg aaggcttagg actgttgagc 8760

aggaggggtga ggtggccaag atgtagaggt ggcaccccgt cacactctgc ttgcttgagg 8820

atgtctctga tggtaggcaac caggtagaac actggagaga tccagtggac caggtagggc 8880

ggcctccaag gagcaacctc tggctggctc ggtgcttggt gctctcaatt gaccagggac 8940

tctgttccag aggggaacga cgggctctgc cagaaactgt cggtagccctg catgtcttcc 9000

aagccccaga agccttgagg gaaagatgcc tgggagatcc ctggggaatc cctcaagctg 9060

gagaagaaac ttggagctgg gcagtttggg gaagtctgga tgggtaagga cccagggcca 9120

cagcccacag ggccagaggg tggaggggag agggaggcca cttgcttcca ggaacacctt 9180

atggcaaagc gggaatgcta cccaaggcag agggggagat ttaaataata gccataaaga 9240

agcagttccc tgatagcaaa ccaaattgtc ttgctgtgca aacactgatt tgcctttgag 9300

accagtcctg tagtgggtcaa aaacttcctt ctgggaagca ggtgtcatgg atgaggaatc 9360

cctccctcat acggagtggg gactgcctaa cagtttggga ttgagataac cagagacctt 9420

ttcagatgat gaaaattaag aatggggaaa tgcagcttgg agatttccag gcaactgatg 9480

aacaggttat tctgagcacc tgctgtgtgc ccagcactgt tagggtcttg tgggaaaatc 9540

agaaaggcac atctcacacc tgctgatttt cccaagaac ttaagaacaa cactgcctgc 9600

tttgaggggc tgtggggtag atgcagtgcc agccagtgt ggggcagcct gctgtgttaa 9660

tacgttccaa atgggagcgt tccaaatggg agcgaagaca acttacaggg atgcaaacaa 9720

10000010120401

ctcagccaga taaaataagt ttaaaatcca tgtatttcga ctgtatttat tgcgattctg 9780

ctgcatgcaa ggccgggcac agtggctcac gcctgtaatc ccagcacttt gggaggccga 9840

ggcaagtgga tcaatcaagg tcagcagttc gagaaaaacc tggatagtat agtgaaatcc 9900

cgtctctacg aaaaaataca acaattagcc aggcgtgggtg gtgggagcct gtaatccac 9960

ctactcggga ggctaaggca ggagaatcgt ttgaaccag gaggtggaag ttgcaggga 10020

ccgagatcgc accactgcac tccagcctgg gagacagagt gagactctgt ctaaaaata 10080

ataataaaat taaaaagaat ttgacaaaaa agaaaatatg gagaggaagg taagacagat 10140

ctgagtgggtg agatttgaaa gccaaaaata tcatataaga cgctagactc ctactacagg 10200

aagcccacgg ttctggattg gagcttctg gaagccaagg caaatggaa acccaagcaa 10260

ttataaaatt gacaagacc accaaatgaa gcagggtggg gtgaggggag ggaacagcat 10320

gtgccaaatc cctgtgggtg gaggtgagtt ggggtgcttg gggactgagt gacctgcagg 10380

gtgactggca cataaaaggc aaggggagtt tagtggctga tgaggctaga ggggtggacg 10440

aggctgggtc atgtagggcc tgggggtcat agtaagtctg gcatttatatt aagagcagtg 10500

ttaagattaa agtgggcggt gtatgtgtgt gacataacct gagtagtggt ttaaagctat 10560

ttttatttgt ttgggttttt tgtttgtttg tttgtttgag acagagtctc gctctgtcac 10620

ccaggctgga gtgcagtggc tcaatcttgg ctactgcaa gctccgtctc ctgggttcac 10680

accattctcc tgctcagcc tccccagtag ctgggactac aggcgcccac aactgcgcct 10740

ggctaatttt ttgtattttt agtagagacg gggtttcacc gtgttagcca ggatgggtctc 10800

gatctctga ccttgtgatc cgccacctc gggcccccaa agtgctgaga ttacaggcgt 10860

10007010-120401

TODD - TROTT

TODD - TROTT

TODD - TROTT

TODD - TROTT

TODD - TROTT

TODD - TROTT

TODD - TROTT

TODD - TROTT

TODD - TROTT

[illegible]

TODD - TROTT

TODD - TROTT

TODD - TROTT

TODD - TROTT

TODD - TROTT

TODD L. TROTT

TODD - TROTT

TODD L. TROTT

TODD - TROTT

cacactcagc taattttatt tatttattta catatttatt tttagagaca gggttgccct 12060
ctgcctaccc aggctggagt gcagtggcgt gatcatagtt cactgtagcc tcaaactctc 12120
aggctccagg atcctcccga cttagtctcc ccagtagctg gcactacagg catgcactac 12180
cacaccacgc taattttctaa aaaaattttt tttttttttg agacagagtc tcactctggt 12240
tcccaggctg gagtgcagtg gcacaatctc ggctcaatgc aagctccacc taccagggtc 12300
acgccattct cctgcctcag cctcccaagt agctgggact acaggtgcct gccaccatgc 12360
ctggccaatt tttttgtatt tttagtagag acggtgtttc accgtgttag ccaggatggg 12420
ctcaatctcc tgaccttggt atccgcccgc ctcagcctcc caccatgctg gaattacagg 12480
cgtgagcaac tgcgcccagc ttctaaaatt tttttctaga gacaaggctc cgccatcttg 12540
ccccagctgg tctcaaactc ctgggttcaa ctgatcctcc caaagctttg ggattatagg 12600
catgaaccac tgagcctggc ctaacatata tatttgtaaa tttcttctat agatgggggtc 12660
ttgcgatgtt gcccaggctg gtctcaaact cttggcctca ggtgatcctc tcacctcggt 12720
ctcctaaagt gttggaatta caggagttag cctcgtgcct agccactctg cccatttttt 12780
gataaacaga atcatctcat gcaatcccat ttagtgcgat ttgaaacctc aagccttttt 12840
cattttaact atgcaattat gccagtcctg tgaaggcatg atcccagcca tccaggctca 12900
ggggctgtct cagtcacaga atccatctag caatcaaaaa gtcacttcac taaaactcaa 12960
ttctctttct caaacactag gaattgcaaa caaatattcg tatttaaate tactactatg 13020
aaaaatcttc accacacact aaagtactag attggtgcaa aagtaattgt gggttttgcc 13080
attaaatagt aaaagtagta aatgttctc ccctctcccc catataggaa gcttgctgga 13140

T0402T-0T0400T

FORGETTING

aaaacagagt gtaaggacgg ggtggtatta gagtgcatag ctagagcatt tagcctggtc 14340
caggagcaat cagagaatgc ttcctggagg aagtggcctc taggccgagc ctgaaggatg 14400
aatagaagtt cagtagatga agagaaaagg taaaggtctt ttagacaaaa gaaacagcct 14460
gtgcaaaagt aggtgaagga gttcagccta ctcagcagga gcccagggat agtgggagtt 14520
gagtgaagacc ctgcctgggc ctcagctggg cctgctggag atgccaaggg cagggtcat 14580
ttgagtatgc aaattcaggg gccagagga caccacaaag tgtaacaaaa gactctactt 14640
tcagagcctg gaatgccaga ggcatatgga aatgtgtttt cactcctatg ggccaggtcc 14700
tctgggagac aatagactgg tctgttgcta aattatcatc ttcaaactag cagaagccct 14760
gctgggcagc agtcaccgac cagggaaga gccactctgc ccgtttcaca gaggggaaaa 14820
caaaccaagg gaggaaaaga ggttctgggc cttcatctgt ccagaagcag aggtagattc 14880
agagcccagg gacagaaagg agcccacctg gggctttggg cttcacctcc agactcagag 14940
aggcagcttg gagcagcagg tggagaactg gaccacacat gtgggggttc ttagtgcaca 15000
gctttgtggg tgacatgaaa tgttattcag tagctgcata tatacaaaca ggtcaaaaca 15060
gagctgctct gactgaagca ggggtggggg cttatctgtg gcctttcttt tgtctcccc 15120
acccccatat aaccttgagg catccatagg attcagttgg aagagctcta caggctcttc 15180
cagctctgat gctgtgactc cctgatactc ttggaagca aaccaaggg tgcccaacct 15240
catggcacc tatctggggg tcatgaaatc tcaccgcctt tatcaaccg cagtgttac 15300
acctgggccc aataaaccta ctcgttattc attcagtcag cagaccctgg agaagcaaca 15360
ctattagcat ctgggcttag gagtacaca gagttttgtt ttgatctcag ctctgcctgt 15420

10000010-120401

gtagcctcaa gcaagttgct taacctctct gagtgccact ttccccact gggagcactg 15480
ggagccactc tttaaataaa tacttaacta tgtgccaaac actctactaa gcccttgatg 15540
taggcttagg ggattcatct tcacatgacc ccttggaacc aggtgctatt acagagaaga 15600
aaagtgaggt acagagagat gacacaactt gcttgacatc acagagctgc agcgctcaag 15660
ctgagttggt ccagctccag agccatttag ctattaccct ctgctgtctc ctaagtgggg 15720
tgtcatccct gcccacatga gctcctgtga aaatcagtag catatgagca tctgccagtg 15780
agcatcaaac agtggtaact accagcatta gtccttgctc cagaagaaaa gcaaggcaaa 15840
aaagctgggc caagtaacag gtaagtgcgt ggacccaag cagcgctttt ggagctccag 15900
ccctggctcc gcaacttgca agctgtgtaa gctggggcca cttacctatt tctctgggct 15960
tcagttttct tatctgtgga aatggggctg ataacaaaag tgctcctcc aaagcacatg 16020
gtaaatgtca cataagtgtt taagtatcat cttataaata agctatgatg ccttccatta 16080
gcatcataac ttttgttaac tgttcatcta aggactcata aatttccac actcccagg 16140
ccaagatgct gtctcactcc accctggcaa cctcatcccc atttcgtccc cccccccac 16200
tattctaaac aaaatcagag tctcttccaa gtttttactg aaaaatttgg gtctctgggt 16260
ctcccttggg catgacagct caggcctgta atcccagcac tttgggaagc tgaagcagga 16320
ggatccttta agcccagcct gggccacata gtgggacctc ttctctatta aaaaaaaaaa 16380
aaattctttt taaatttaat ctggcatagt ggcatgcacc tatagtacca gctgcttggg 16440
aagctgaggt gggaagactg cttgagccca ggaggcacag gttgcagtaa gctgtgatcc 16500
caccactgta ctccgtgaca gagcaaggcc ctgtctcaaa agaaaaaaaa aaagaagaaa 16560

TOTAL = 2040

[illegible]

cgccatgttg gccaggtg tctcgaactc ctggcctcaa gtgatccgcc cacctcggcc 17760
tcccaaagtg ctgggattac aagtgtgaag caccatgccc ggctgtttt atcttttctt 17820
tatggtactt accacctgca ggggctttgc cgggctcatc acctgttcaa gcaacatgtc 17880
tggcaccac aagacactca gtggatttct gttgagtaaa taagtgaatt ttccctaccc 17940
aggctggggc atgaggaaga tatgagaggt atagcagaat atgacatgaa cctgggttgt 18000
ccccagaaag agagttgaag gtgaaagctc ttcatagtat cctaggggtc gtgtgtgtgt 18060
gtgtgtgtgt gtgtgtgtgt gtgcatgtgc acgtgtgtgt gtatgtgtgt tcctggaaga 18120
ataggtcctg gagaaatagt ccattgctt tttccctgag aacatttcaa agtgctctct 18180
ggaagtcttg gaattctaga gaatcccca aactggcca ggctcctta gggatcccc 18240
taacctgaat gggttgatgg aggaatgcca ccctgagccc tggggccctc ccgacacaaa 18300
agggagggct ggtgcagaca tttcgattt tcttcaattg aacacctctc tgctgctttt 18360
gggtggggcc atcttggcgt aggccaggtc tgaggacaaa ggtgtctctg tttggggtgc 18420
agattgcaga aggcattggc ttcacgagc agaggaacta catccaccga gacctccgag 18480
ctgccaacat cttggtctct gcacccctgg tgtgtaagat tgctgacttt ggctggccc 18540
gggtcattga ggacaacgag tacacggctc gggaaggtag ggaacgctgc caagcagccc 18600
cacgttgccc atttgatgc ttgtgagtgt tgagagttga tacttgtag agcgattgg 18660
aaaatgcaag ggactgccc agtactagct gtgcattctt gagcttggtg gatccttctg 18720
gataatgtcc tgaacttcag agtctcactc agagattttg aggagatttt agatcagatt 18780
gagaagtact gatagatttt agaggagtg ggcaaatata tgtcgaaatt aagggtgaaga 18840

10007010120401

gcagctttgt gcataacaga caaaaatggg gagggatatcc aaatgtccat agcaggagga 18900
tggattgtgg tatattcaca caatataata ccacgcagtg atgaaaaagc acaaactggc 18960
caggctcagt ggctcacgcc tgtaatccca gcactttagg aggccaagac tggaggactg 19020
cttgagccca gaagctcaag accagcctgg gcaacacagg aagacctagt ctctacaaaa 19080
atttaagaaa ttagccaggc atggtggcac atgcctgtat gcctgtagtt gtggctactc 19140
aggaggttag ggtgagagga tcacttgagt ctaggaagct gaagctgcag taagccatga 19200
tcatgccact gcaccagcc tgggtggacag agcaagatct tgtcaaaaga aaagaaaaga 19260
aaagaaaaga aagaaagaaa gaaagaaaga aagaaagaaa gaaagaaaga aagaaagaaa 19320
gaaggaaaga aagaaagaga gagaaagaga aagaaagaaa gaaagaaaga aagaaagaaa 19380
gaaagaaaga aagaaagaaa gaaagaaaga aaagaaagaa agaggcacia gccaatgcta 19440
aatgcaccaa aatgggtaac tctcacaggt ataatatcaa aatgaaagaa attagaccaa 19500
aaaaaaagag tagatgccac ttggtttcgt ttttgtgaaa ttctaaaaga gacaaaacat 19560
gtaattggac attcatggca gcattcttcc taatagccaa aaaatggaaa caacactctt 19620
taatgtccat caattgatga acagacgaac aaaatgtgat atatccatac aatggaatat 19680
tatttgcca taaaatggaa tgaagtacta cgccaggcta gaacacagat gacccttaa 19740
aacattttgt taaaggaaag ccaacatgaa gaccacatgt tgtataattc cccttctatg 19800
aaatgtccag aagaggcaat cttttttttt tctttgagat ggagtcttgc tgtcaccag 19860
gctagagtgc agtggctcaa tctcagctca ctgcaacctc tgccctccag gttcaagcga 19920
ttcttgtgcc tcagccttct gagtagctgg gattacaggc gcacaccacc ataccagct 19980

10007010-120401

aatttttgta ttttttagtag ataacagggt ttcaccatgt tggccaggct gaactcaaac 20040
tctgacctc aagtgatccg cccgccttgg cctcccaaac tgctgggatt acagggtgtga 20100
gccaccatgc ccggcccaga acagacaaat ctaaagagac agaaagtaga ttattggtgc 20160
ctacagctgg tgggtggggag ttgggagaaa tgaggagtga cttctgtggg ttttttgcag 20220
ggaaatgtga tgaaagtatt ctaaaatcca caactttgta aatattctga aagccacgga 20280
attatacact ttaaatgggt gaaatgtatg gtctgtgaat tctatctcga taaagctggt 20340
aaagaaagaa acaggcaaaa tttatttata gcactagagg tcagaattgc agtcaccttt 20400
agtttctggt agcctaatat ttatttattt atttatttat ttatttattt atttatttat 20460
ttattttgag acggagtctc gctctgctgc ccaggctgga gtgcattggc gccatctcag 20520
ctcactgcaa actccacctc ctgggtttaa gtgattgtcc tgcctcagcc tcccaagcag 20580
ctgggattac aagcatgtgc catcatgccc agctagtttt tgtattttta gtagagacag 20640
ggtttcacca tgttggccag gctggtctcg aactgatgac ctcaagtgat tcacccacct 20700
gggcctcccg aagtgctggg attacagatg cgagccactg tgccagtcct atttattttt 20760
ttaaagagac ggggtcggcc gggcacagtg gctcacacct gtaataccag cactttggga 20820
ggccaaggca ggcggatcac aaggtcagga gtttgagacc agcctggcca atatggtgaa 20880
accctgtctc tactaaagat acaaaaatta gctgggcgtg gtggcagggt cctgtagtcc 20940
cagctactcg ggaggctgag gcaggagaat catttgaacc cgggaggcag aggttgacgc 21000
aatgagccga gattgtgcca ttgcactcca gcctgggtga tagagcgaga ctccgtctca 21060
aaaaaaaaa aaaaaaaaaa agatagggtg ttgctctgtt gcccaggctg tagtggaggg 21120

T04027.DTC000T

TOP SECRET

gaggaagggga gaaaacatat acacacacac acactctcac acacacaaac acacacatag 22320
aacattttca aaacttgacc atgtactcag tcataaagca ggtctcaaca aattccaaag 22380
aacatatatt ctatagacca tgttcaccaa ccatgatata attaaactaa acacttttta 22440
aaaaaggata actatgccag gtgcggtggc tcacacctat aatcccagtg ctttaggagg 22500
ccaagatggg aggatcactt gagcccagga gttttgagaa caggctgggt aacataataa 22560
aacactgtct ctacaaattt ttctattttt ttatatatta ttttatttta ttttatttta 22620
tttttgagac ggagtctgac tctatcatcc aggctggagt gcagtgggtg gatctcgggt 22680
cactgcaacc tccatcccct gggttcaagt gattctcctg tctcagcctg tagctggaac 22740
tacaggcacc tgccaccatg cccagctaatt tttgtatttt tagtagagat ggagttggcc 22800
aggctgggtct cgaattcctg acctcaggtg atcctcctcc ttggtctccc aaagtgctgg 22860
gattacaggc acaagccacc atacctggcc aaaaaattt ttttaattag cttggcataa 22920
tggggcacac ctgtaacccc aggggcttga gaggctgagg caggaggata gcttgaggtc 22980
aggagttcga ggcttcagtg aactatgatt gtgccactgc gctccagcct gggcactctg 23040
tctctaaaag aaaaaaaaaa tgaaaaggct aactaaacct atgtcagact aggtgggagg 23100
aagggcgggt aaaggagag acacatagtg actggtggga acctcatggg ctgagagcca 23160
gaatcctccc ttttcccatc gcccaggatg agaggactga ggcacagct gcaacctgga 23220
ctcaaggccc cctgaagtcc ttctgtcccc aaagacctgt gacctctggg attccactct 23280
tcggagttgc agttaactgg ggtatcagct gaatcaacga ggaggattct agagtgaact 23340
tccacaccat accccaggcc cctaagccca ctctccttg ttagccatc tgtcctcagg 23400

F04027010-120104

atggatgtcc cttgcttcca cagggaggcc acgtatcagg gaaattgcag gtctgcaggg 23460
gcagatgttg gcagctcttg cccttgccctg ttccccacc ttagcagagc caaccctcac 23520
tactccccag ccttccccga ctctgctctg ttcaaccctg caggggcaa gtccccatc 23580
aagtggacag ctctgaagc catcaacttt ggctccttca ccatcaagtc agacgtctgg 23640
tcctttggta tcctgctgat ggagatcgtc acctacggcc ggatccctta cccaggtagg 23700
gaaggggcat cagctcaggg ctgctaccag ggcccagtct ggcaatgggc tcatctcaac 23760
aacatgtcca ttcaaactga gttcttgatc ctcaccccca accttcctc acctttcctg 23820
tcttagttaa aggcacctcc atccatctaa tgtcttaagc ctgaaatctg ggggcttcct 23880
tgcccttcc ttctctctca ctctatgac tttttttttt tttttttttt tttttgagac 23940
ggagtctccc tctgtcacc aggctggagt gcagtgcagt gatctcggct cactgcaacc 24000
tccgctccc aggttcaagc gattctcctg cctcagcctc ctgagtaact gggattacaa 24060
gcatccacca ccatgcctgg ctaatttttg tatttttagt agagacgggg tttcaccatg 24120
ttggccaggc tggctctgaa ctgctgacct taggtgatgc gcctgcctcg gcctcccaa 24180
gtgctgggat tacaggcgtg agccactgtg cctggcctca cccctatgac atctgagcag 24240
tcacagggtt ttggccactc gactccaaaa catatcccaa gtctcaccac tttgaacccc 24300
acagtctcca ctgcatccag gccagcgtca tctcccatag atggtgcagc ggcacctca 24360
tcagtcttac tgctttctcc ctctcgtcc tacagcctat tctccactg cagccagaag 24420
gataattcta aactttaaat cagatcttgt cctttctcca cttttttttt tttttttaag 24480
acaaggctc actctgtcac tgaggctgta gtgcagtggg gtaatcatag ctcatggcag 24540

T0007010-120401

cctcgacttc ctaggctcaa atgacccctc cgcttcagcc tcccagatat ctgggacccat 24600
aggcacatgc caccatgtct ggctatTTTT tattttttta atttttttgt agagacttgg 24660
tctcactacg ttgtgcagcc tggctctctaa cttccaggct caaacgatcc tccagccttg 24720
gcctcccaaa atgctgggat tacagacaca caccaccatg cccagctaatt tctttaaatt 24780
ttttgagaga caaggtattg ctatgttgcc gggctgggtga tttccatttt taagcgatgc 24840
tttcagcatg gagagtgaat gggagggaaa ggggaacaggg tggcagccag tgaggaggcc 24900
acagcagtgg cccaggcaga ggtgatgatg gtctggacag ggtgggtggca ttcgtgactg 24960
gcatacgttg atgaactggt gctacgtttc aaaaggagaa aagatctgac ttgctgactt 25020
aggaggtgag agagagagaa taaaggatga ttaccctggc tttgcaccac aggggtgggtta 25080
atggtctagg gatagaaatt ggagagctct gttttagctc tgctaaattt gagttgactt 25140
aaatatagag acatccaagt aaaggaagca cttgagttca tgagtttgga gtttgagact 25200
aataatataa aattggggat cacagacatt gaatggctat tcttatgaat agctaataka 25260
aacttgaact gaacaaaaaa atggtccac ccatagggtta acattgaatc tggccacctg 25320
aatgttttgt cttgaggggtg cactagtcaa aaccaggcaa cacacaatag acgctgaatc 25380
cattaggatg tgttccacag caagcaacaa aataacagac aaagagtaac tgaaatagaa 25440
gcaatctatt actcccaatc ttccattggt gactgggttag ttcagcaact cagcagctgt 25500
caggactctg ggttctctg cttatgatgg tcttctccat gttgtcagct ccaagtatca 25560
taagtatctc acagtgttca aaggaagaga tgaaggggtgc gttctccaaa gactctctc 25620
taagcgggag gaaaaacctt tccatcactt tcccagcaga cctccccatc agctccatt 25680

10007010-120401

ggcccaaact ggggtcccagg cccatgtcct agctgcaagt gaagctgagg gtggaagtct 25740
gtctttcaca gtggaagggg ctgagcttgc aaggtgaggt ggggagtgat gcctgctggg 25800
gaggccacag ggcctgccac ccctgggctc tcatttccca actgcttccg tttctaattc 25860
cacggctcct tttcagggat gtcaaaccct gaagtgatcc gagctctgga gcgtggatac 25920
cggatgcctc gcccagagaa ctgcccagag gagctctaca acatcatgat gcgctgctgg 25980
aaaaaccgtc cggaggagcg gccgacctc gaatacatcc agagtgtgct ggatgacttc 26040
tacacggcca cagagagcca gtaccaacag cagccatgat agggaggacc agggcagggc 26100
caggggggtgc ccaggtggtg gctgcaaggt ggctccagca ccatccgcca gggccacac 26160
ccccctcta ctcccagaca cccaccctcg cttcagccac agtttctca tctgtccagt 26220
gggtaggttg gactggaaaa tctctttttg actcttgcaa tccacaatct gacattctca 26280
ggaagcccc aagttgatat ttctatttcc tggaatgggt ggattttagt tacagctgtg 26340
atttgaagg gaaactttca aaatagtga atgaatattt aaataaaaga tataaatgcc 26400
aaagtcttta ccaaaacgtt ggttttctg tcttccaat tctgaatat ctatttgcct 26460
tcttgctgta tgacaagtca gaaatggtga aggactctcc cggggaccag aaatacaaag 26520
acaagtgggg ttcagactgg gtgctgtggc tcccacctat aataccagtg ctttgggaga 26580
ccgaggagcg ggggattgct tgagcccagg aggtcgaggc cacagtgagc tatgatcgtg 26640
ccactgcact ctagcctgag cgacacagtg agaccctgtt taataaaaaa aaaaaaagat 26700
gaagaagaag aaagaaagga aaggaaagaa aattgggggt caatgcttga ggttttctaa 26760
ctgccctaaa atagttactg gctatattag tttcctcttg ctctgtaac aaattaccac 26820

T0402T" 0T0400T

atatctggta gcttaagaca acaaaactgc ataacattac ttggccgggc ataatggctc 26880
atgcctatag ttccagcatt ttgggagact gaggtgggtg atcacttgag atcaggagtt 26940
cgagaccagc ctggccaaca tggtgaaacc ccgtctctac taaaaataca aaaattagcc 27000
aggcatgggtg gtggg'gcct gtaatcctag ctactggaga ggatgaggca ggagaattgc 27060
ttgaacccgg gaggtggagg ttgcagttag ccgagattgt accactgcac tccagcctgg 27120
gcaagacagc gagaccctgt ctcaatacat acatacat acatacat gtataacctt 27180
actgttccag aaaagcaaga ccctgtctca atcaatcaat caatcaatca gtcaatacat 27240
gtataacctt actgttccag aagtcagagg gactgaaatg gggtggcagg gctgcattct 27300
ttttggaggc tctaggggat aatttgtttc cttgcctttc ccagtttcta gaggctgctc 27360
ctattccttc actcatcagc ccctttcggt cattactcca aactttgctt tcattctcat 27420
atctcctctg agtcttcttc ccctctttta tttgtaagaa ctcttggac ccacctggat 27480
aattcagaat aatcttctca tctcaggatt cttaatcacc ttgcaaagt cccttttgcc 27540
atgtgaggta acattttcac acgctctgag ggtaggaca tgaacatctt tcgacggggg 27600
gcacttttct gccttctcca ctggtatcca gatgctggat gggttttgcc tccaaggaga 27660
tgggtcttcc aggatgacag gaatggtttc tcatgatctg ggacctgac tttcctgtta 27720
ggccacattg ctataagagc tggtcagttt acagctccc agagctgggg gctgcctgca 27780
gacctgacgt ttcccatggg tcaagcagcc atcatacttg tcgaagtggg atttgccatt 27840
gcaggaatcc tggctctggag atatggctgc tgagaggtgt ctagtaccct acaggggaag 27900
ctctcagtgg aggggtggga gacctgcgta ggaagcagag aagacgaagc agtgcgggct 27960

F01027-01020001

tcttgaatgt tgcctcagct gaaagaccct ggcagctagt ttttatcata gagagaaaga 28020
caaaagaggt ggacaatggg tgaaaacgaa acaccacctt tctatattat tgcacccct 28080
gaaggttgta catcacatca cccccaggg tcccatggaa tcctatacta acttgattct 28140
gtacttctga gtaggggtggg gttctaacct taggaactga atataagaac agtggaaaat 28200
aaagctagca gtgtttcaat ttacctagtt ggtaatttct ttcttgcttt ctagtttggg 28260
gtatggcttg ggtacatgaa agcagagccc agggcttct gatggaaatg ttcccttatg 28320
atttgtgata ataatccaat gggaggagta catttccctg ctccatcagt gttgagcttg 28380
accgtgagac ttgcttttagc caatgggatg ttagcagatg tgatgcaagc agaggcttga 28440
aacgtgcttg tggggctggg cttgccttcc agtcttttgc cctgaaaaga acatgggtccg 28500
aggaagatga gtgacagatg gagcagacct agaccaacct gcaggcctga gccagccta 28560
gatcaactga gctccatctg acctgtggac atgtgagaga gaaatagatg cttttgtgtt 28620
ctggggttgt tttgttacat aaaagtatga cagccacagc aactgaggca cgatctcagg 28680
agttggagcc tattgcttat gaacaagggt aagagatcaa tttctgcttc ttactctttc 28740
aatttatacc gcccaaacca aactgattt gtctctctgg tcaccgaaaa gacaggtaaa 28800
aacatgggga tagatacaac accaaaagca tgatccacaa aagaaaaaaaa agataaactg 28860
tacctcttta aaattaaaaa ctctgctctg ccaaagacac tattaagaaa atagaaacat 28920
ggccaagcgt ggtggctcac gctgcaatc ccagaacttt gggaggctga ggtgggtgaa 28980
tcaccagagg tcaggaattc gagaccagcc tggccaacat ggtaaaaccc tgtctcaact 29040
aaaaatacaa aaattagcca ggcattggtg cgggcgcctg taatcccagc tactcgggag 29100

T0402T"0T02000T

| | | | | | | |
|-------------|------------|------------|-------------|-------------|------------|-------|
| gctgaggcag | gagaattgct | tgaacccagg | aggcggagggt | tgcaatgagc | caagatcaca | 29160 |
| ccattgcact | ccagtctggg | tgacaagagc | aaacctctgt | cttaaaaaaa | aaaaaaaaga | 29220 |
| aaaagaaaaa | agaaaagaaa | agaaaagaaa | aatgtgattc | ccaagcttgt | agaaaatatt | 29280 |
| tgcaaaagat | atctctgatg | aaggactggg | atctgcaata | tataaagaac | tcttaaaacc | 29340 |
| caacaattaa | aaaaaaccgt | atctgctaaa | atagctgaga | ttcaaaacac | tgatgacacc | 29400 |
| agatgctgag | gaggatgtgg | agcaacagga | actctcattc | attgctgggtg | ggaatgcaca | 29460 |
| acggtacagc | cactttggaa | ggcatctggc | agtttattac | caaactaagc | ataacctact | 29520 |
| acacaatcca | gcaattgtgc | tcccatatga | gttgaaaact | tacgtctaca | cacactcaca | 29580 |
| aaaatggcac | atggatattt | acagcagctt | tattcataaa | tgccaaaact | tggaacaat | 29640 |
| taagatgtcc | ttcaataggt | gaatggataa | acaacttgtg | gtatattcac | ataatgggat | 29700 |
| attattcagc | actaagaaaa | aagagttgac | cagggtgcagg | tgcagtgggt | cacacctata | 29760 |
| atcccagcac | tttgggaggc | taaggtggga | ggattgtttg | agcccagaag | tttgagacca | 29820 |
| gcttggggcaa | caagtgggac | ccccccccc | accatatcta | caaagagtta | aacatttagc | 29880 |
| tggttgtggt | ggcatgcaac | tgtggtccca | gctacacagg | aggctgaggc | aggagaaaca | 29940 |
| cttgagocca | ggagattgag | gttgcagtga | gccgtgattg | taccactgca | ctccagcctg | 30000 |

<210> 11

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<400> 11

20

<211> 20

<213> Artificial Sequence

<223> Antisense Oligonucleotide

20

<211> 20

<213> Artificial Sequence

<223> Antisense Oligonucleotide

20

<211> 20

<213> Artificial Sequence

$\langle 220 \rangle$

<223> Antisense Oligonucleotide

<400> 14

cagcccggat cctcgagct

20

<210> 15

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 15

gggcagcccg gatcctcgca

20

<210> 16

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 16

tggatgtggg atccggcacg

20

<210> 17

<211> 20

<212> DNA

<213> Artificial Sequence

1000010-00001

<220>

<223> Antisense Oligonucleotide

<400> 17

tggctattag gccccggctt

20

<210> 18

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 18

atgtcctcag agcctgcctc

20

<210> 19

<211> 20

<212> DNA

<213> Artificial Sequence

$\langle 220 \rangle$

<223> Antisense Oligonucleotide

<400> 19

ttctggaagc tgagggtcttc

20

<210> 20

<211> 20

<212> DNA

<213> Artificial Sequence

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 23

gcccagcatg ttgccgggag

20

<210> 24

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 24

aaggagccca gcatgttgcc

20

<210> 25

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 25

atgaaggagc ccagcatgtt

20

<210> 26

<211> 20

TOPO2T"OTOCOOT

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 26

gatcatgaag gagcccagca

20

<210> 27

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 27

ccggatcatg aaggagccca

20

<210> 28

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 28

cggacaaaga gtagcttcct

20

<210> 29

TOH02T:0T0Z000T

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 29

caggggtccgg atcttgtaat

20

<210> 30

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 30

tcggttcccct tcttgtagtg

20

<210> 31

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 31

gacagtttct ggcagagccc

20

10000010120401

<210> 32

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 32

gacatgcagg gcaccgacag

20

<210> 33

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 33

ggcttggaag acatgcaggg

20

<210> 34

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 34

agctccaagt ttcttctcca

20

10007010-120494

<210> 35

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 35

cccagctcca agtttcttct

20

<210> 36

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 36

ctgcccagct ccaagtttct

20

<210> 37

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 37

ggtggccatc cagacttccc

20

TOTAL: 000710

TOTAL: 000710

TOTAL: 000710

TOTAL: 000710

TOTAL: 100%

TOTAL: 000710

TOTAL: 00000000

TOTAL: 000710

TOTAL: 000710

TOTAL: 000710

TOTAL: 000710

TOTAL: 000710

TOTAL: 00000000

TOTAL: 000710

TOTAL: 000000

TOTAL: 000000

TOTAL: 000000

TOTAL: 000710

TOTAL: 000710

TOTAL: 000710

TOTAL: 000710

TOTAL: 0007

TOTAL: 000710

TOTAL: 00000000

TOTAL: 000000

tggtgtgctt gttgtaggctg

20

<210> 41

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 41

gacatgctcc ctggcttcat

20

<210> 42

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 42

ggaaggcctc caccgacatg

20

<210> 43

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

THE UNIVERSITY OF CHICAGO

<400> 43

gctgcagagt tttcatcacg

20

<210> 44

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 44

aagtttgacc agcttgatcat

20

<210> 45

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 45

ctccgtgatg atgtagatgg

20

<210> 46

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

T0402T 0T02000T

<400> 46

catcactttt cagaaagtcc

20

<210> 47

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 47

ctgcttgctg ccctcatcac

20

<210> 48

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 48

ggctgagaag tcaatgagtt

20

<210> 49

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

10007010-120401

$\langle 220 \rangle$

THE UNIVERSITY OF CHICAGO

<223> Antisense Oligonucleotide

<400> 52

tgctcgatga aggccatgcc

20

<210> 53

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 53

tagttcctct gctcgatgaa

20

<210> 54

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 54

tcggtggatg tagttcctct

20

<210> 55

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 55

tcagcaatct tacacaccag

20

<210> 56

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 56

gacccggggcc aggccaaagt

20

<210> 57

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 57

tcgttgctct caatgaccg

20

<210> 58

<211> 20

<212> DNA

<213> Artificial Sequence

10007010420401

<220>

<223> Antisense Oligonucleotide

<400> 58

aacttgcccc cttcccgagc

20

<210> 59

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 59

gcttcaggag ctgtccactt

20

<210> 60

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 60

tctgacttga tggatgaagga

20

<210> 61

<211> 20

<212> DNA

Patent: 010,000

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 61

gggatccggc cgtaggtgac

20

<210> 62

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 62

ggtttgacat ccctgggtaa

20

<210> 63

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 63

catccggtat ccacgctcca

20

<210> 64

<211> 20

10007010:120401

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 64

gcgcatcatg atgttgtaga

20

<210> 65

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 65

agcacactct ggatgtattc

20

<210> 66

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 66

tccagcacac tctggatgta

20

<210> 67

10000010-120401

<211> 20

<212> DNA

<213> Artificial Sequence

$\langle 220 \rangle$

<223> Antisense Oligonucleotide

<400> 67

tcatccagca cactctggat

20

<210> 68

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 68

atggctgctg ttggtactgg

20

<210> 69

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 69

cctccctatc atggctgctg

20

<210> 73

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 73

gtcagattgt ggattgcaag

20

<210> 74

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 74

cctgagaatg tcagattgtg

20

<210> 75

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 75

gctgtaacta aaatccaacc

20

<210> 76

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 76

acagctgtaa ctaaaatcca

20

<210> 77

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 77

actattttga aagtttccct

20

<210> 78

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 78

THE UNIVERSITY OF CHICAGO

tcatttcact attttgaaag

20

<210> 79

<211> 20

<212> DNA

<213> Artificial Sequence

$\langle 220 \rangle$

<223> Antisense Oligonucleotide

<400> 79

taagacttgc atttatatct

20

<210> 80

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 80

agatgtgcac caccatgctt

20

<210> 81

<211> 20

<212> DNA

<213> Artificial Sequence

$\langle 220 \rangle$

<223> Antisense Oligonucleotide

<400> 81

tgcaccaccc tatattatca

20

<210> 82

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 82

aacatacata ttaggctggt

20

<210> 83

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 83

gagtagcttc ctgaattgac

20

<210> 84

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

T0402T 0104000T

<400> 84

tcgttcccct ctggaacaga

20

<210> 85

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 85

gggtccttac ccatccagac

20

<210> 86

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 86

ggccagcaga agatgccaca

20

<210> 87

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

1000010120404



100-100000